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IN REPLY
REFER TO

DSCC-VAT

1 July 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of MIL-PRF-8805 /11J, /14F, /15G, /17G, /18G, /19F, /23G, /25F, /34E, /38G, /40H, /47G, /48H, /49H, /65D, /76H, /84E, /90F, /96E, /100F, /101K, /104C, /107C, /110D, and /114C.
Project numbers 5930-1838 through -1863.

The drafts of the above subject documents are being sent to you for review and comments. These drafts consist of the following changes:

Updating of referenced documents.
Incorporation of amendments.

If these documents are of interest to you, please provide your comments electronically. This can be in the form of a return e-mail, with or without an attached text file. A 45-day coordination cycle from the date of this letter has been allotted. Please provide your comments within that time period. If no comments are received in the allotted 45 day coordination cycle, concurrence is assumed and all comments received after will be held to the first amendment. If an electronic response is not possible we will still accept comments via letter, facsimile or phone call but only after you have contacted the project officer listed below. The draft documents can be found at the following DSCC-VA web page:

www.dsccl.dla.mil/Programs/MilSpec/initialdrafts.asp

This process still requires military departments to identify their comments as "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians or this office, as applicable, in sufficient time to allow for consolidating the department reply.

If there are any questions, please contact Mark Rush by the preferred method of E-Mail at Mark.Rush@dlm.mil or by telephone at commercial 614-692-0550, DSN 850-0550; or by facsimile at 614-693-1644. Our mailing address as a last resort is Defense Supply Center, Columbus, DSCC-VAT, P.O. Box 3990, Columbus, OH 43216-5000. If you have further questions or concerns you may contact me at Kendall.Cottongim@dlm.mil, by telephone at 614-692-0676 or by facsimile at 614-692-6939.

/ SIGNED /
KENDALL A. COTTONGIM
Chief
Electronics Components Team



NOTE: This draft, dated July 1, 2004 prepared by DLA-CC,
has not been approved and is subject to modification.
DO NOT USE PRIOR TO APPROVAL.
(Project 5930-1848)

INCH-POUND

MIL-PRF-8805/39G
DRAFT

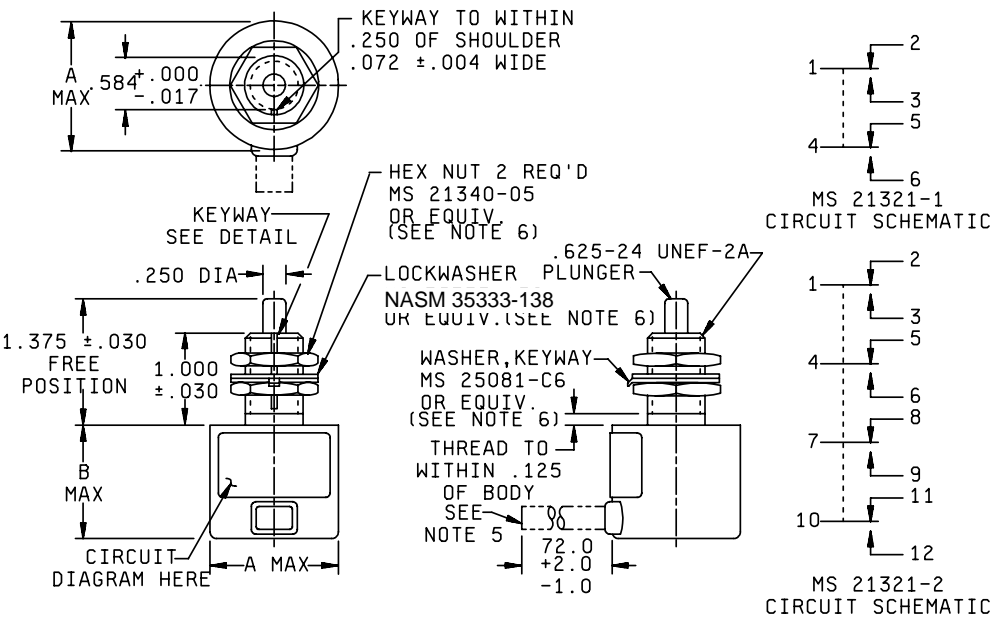
SUPERSEDING
MIL-PRF-8805/39F
3 September 1999

PERFORMANCE SPECIFICATION SHEET

SWITCHES, SENSITIVE, LIMIT, PLUNGER, 7 AMPERES, RESILIENT SEAL, FLUID RESISTANT

This specification is approved for use by all Depart-
ments and Agencies of the Department of Defense.

The complete requirements for acquiring the switches described herein
shall consist of this specification and the latest issue of MIL-PRF-8805.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise stated, tolerance is ±.010 (0.25 mm).
4. Contour optional, provided maximum dimensions specified are not exceeded.
5. Leads shall be marked with the switch circuit identification number followed by wire gauge number (1-20, 2-20, etc.).
6. Alternative base metals and protective finishes, as approved by the qualifying activity, may be utilized for hexagon nut, lock washer and keyway washer material. Dimensions shall be in accordance with the referenced hardware specifications.

Inches	mm	Inches	mm
.003	0.08	.250	6.35
.004	0.10	.584	14.83
.030	0.76	.625	15.88
.038	0.97	1.000	25.40
.072	1.83	1.375	34.93
.125	3.18	2.0	50.
		72.0	1828.

FIGURE 1. Dimensions and configurations.

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REQUIREMENTS:

Dimensions and configurations: See figure 1 and table I.

Enclosure design: 4 (resilient). All entrances to the switch cavity except through the actuator bushing shall be sealed by fusion of glass-to-metal, metal-to-metal, or ceramic-to-metal and the lead wires shall be potted to provide stress relief.

Temperature characteristic: 1 (-55°C to +85°C).

Shock type: M (100 g's).

Sinusoidal vibration grade: 2 (10 to 2,000 Hz).

Finish: Switch housing shall be processed to resist corrosion.

Maximum weight:

MS21321-1: .45 pound.

MS21321-2: .80 pound.

NOTE: MS21321 was superseded by MIL-PRF-8805/39, the MS21321 Part Numbers (PINS) were retained.

Operating characteristics: ± 20 percent variation from specified values acceptable after test.

Actuating force: 9 ± 3 pounds.

Overtravel force: 30 pounds maximum.

Release force: 4 pounds minimum.

Pretravel: .040 inch (1.01 mm) maximum.

Movement differential: .020 inch (0.50 mm) maximum.

Overtravel: .250 inch (6.35 mm) minimum.

Coincidence of operating and releasing points: All poles shall transfer within .010 inch (0.25 mm) of plunger travel.

Strength of actuating means: 35 pounds.

Contact resistance: Not applicable.

Insulation resistance: 100 megohms.

Terminal strength: 5 pounds.

Dielectric withstanding voltage:

At atmospheric pressure: 1,000 V rms.

At reduced barometric pressure: 50,000 feet; 400 V rms.

Mechanical endurance: 25,000 cycles.

Electrical endurance: 25,000 cycles.

Electrical ratings: See table II.

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Fluid resistance: Except for the cut end of the lead wire, switches shall be submerged in each of the following fluids for 2 minutes to 2 minutes 30 seconds, which shall consist of one cycle (one cycle is 10 minutes to 12 minutes 30 seconds total). Each switch shall be subjected to three cycles.

- a. Turbine fuel (MIL-DTL-5624).
- b. Hydraulic fluid (SAE AS1241A).
- c. Coolanol (MIL-PRF-87252).
- d. Ethylene glycol (ASTM-E-1119-92).
- e. Lubricating oil (MIL-PRF-7808).

After each immersion, the excess fluid shall be blown off the external surfaces of the switch with an air jet. Following the third cycle, the switch shall be subjected to and shall meet the requirements for dielectric withstanding voltage, insulation resistance, operating characteristics, seal tests, and marking visibility.

Marking: The circuit schematic shall be marked on the switch case.

PIN: See table I.

Qualification inspection:

Group submission: See table III.

Group A inspection:

Seal test: Only watertight test shall be performed.

TABLE I. Part or Identifying Number (PIN) and characteristics.

PIN	A diameter maximum	B maximum	Lead wires, number required
MS21321-1	.720 (18.29)	.980 (24.89)	6
MS21321-2	1.031 (26.19)	1.200 (30.48)	12

NOTE: MS21321 was superseded by MIL-PRF-8805/39, the MS21321 PINs were retained.

TABLE II. Electrical ratings.

Load	Sea level 28 V dc	50,000 feet 28 V dc
	(Amperes)	(Amperes)
Resistive	7	7
Inductive	4	2.5
Motor	4	4 ^{1/}

^{1/} Application information only.

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TABLE III. Qualification inspection (group submission).

Examination or test	Samples	Extent of Approval
Qualification inspection table of MIL-PRF-8805	MS21321-2 (24 units)	All
Visual and mechanical examination Operating characteristics	MS21321-1 (2 units)	

Referenced Documents:

MIL-DTL-5634
MIL-PRF-7808
MIL-PRF-87252
MS21340
MS25081
ASTM-E1119
NASM 35333
SAE-AS1241

Custodians:

Air Force - 11
Army - CR
DLA - CC
Navy - EC

Preparing activity:
DLA - CC

(Project 5930-1848)

Review activities:

Air Force - 19, 99
Army - AR, AV, MI
Navy - AS, MC, OS, SH

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at www.dodssp.daps.mil.